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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/888,361	Applicant(s) Barson, Paul Colin et al
	Examiner Wilbert L. Starks, Jr.	Group Art Unit 2762

Responsive to communication(s) filed on Feb 15, 2000

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1-6, 8, and 10-22 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1-6, 8, and 10-22 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 13

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the invention as disclosed in independent claims 1-6, 8, and 10-22 is directed to non-statutory subject matter. While the claims are in the technological arts, they are not limited to practical applications in the technological arts. The claims are series of steps to be performed on a computer, but they disclose no manipulation of data or data representing physical objects or activities to achieve a practical application (pre-computer activity), nor do they disclose any independent physical acts being performed by the invention (post-computer activity). The claims merely manipulate abstract ideas in general without limitation to a practical application. Ultimately, numbers are returned “without practical application in the arts”, as defined under 35 U.S.C. §101 analysis.

Applicant amended his claims to include an “anomaly detector” in order to make the claims statutory. Upon inspection of the Specification, Examiner finds that the “anomaly detector” is an “object” within a computer program. This is the equivalent of a computer subroutine or sub algorithm. On this basis, claims 1-6, 8, and 10-22 are rejected under 35 USC 101.

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Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunt et al. (U.S. Patent Number 5,365,574; Dated 11/15/94.)

Claim 1's "(i) creating a signature comprising a plurality of parameters related to the transmission of messages over that time period wherein the parameters comprise at least one parameter related to the transmission of messages over a portion of the period and also related to the position of the portion in the period, to enable output data to be derived from the stored information;" is anticipated by Hunt et al col. 7, lin. 15-17.

Claim 1's "(ii) creating a second signature comprising a plurality of parameters related to the transmission of messages over a second period shorter than the first and more recent than the first;" is anticipated by Hunt et al col. 7, lin. 43-47.

Claim 1's "(iii) updating the first signature by a weighted averaging with the second signature;" is anticipated by Hunt et al col. 7, lin. 64-68.

Claim 1's "(iv) inputting the signatures to the anomaly detector; and " is anticipated by Hunt et al col. 8, lin. 9-54.

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Claim 1's "(v) processing the signatures using the anomaly detector to derive the anomalies by detecting unexpected patterns in the transmission of messages by the entity over the time period." is anticipated by Hunt et al col. 8, lin. 9-54.

Claim 2's "a method as claimed in claim 1 wherein the first signature is created in one of a plurality of possible formats." is anticipated by Hunt et al col. 8, lin. 10-19.

Claim 3's "a method as claimed in claim 2 wherein the format of the first signature comprises the length of the signature." is anticipated by Hunt et al col. 7, lin. 35-42.

Claim 4's "a method as claimed in claim 1 wherein said at least one parameter represents the number of events made in the portion of the first time period as a proportion of the total number of events made in the whole first time period." is anticipated by Hunt et al col .7, lin. 17-20.

Claim 5's "a method as claimed in claim 1 wherein said at least one parameter represents the number of events of a predetermined type made in the whole first time period as a proportion of the total number of events made in the whole first time period." is anticipated by Hunt et al col. 7, lin. 17-26.

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Claim 6's "storing information about each of a number of events which occurred during the first time period;" is anticipated by Hunt et al col. 7, lin. 17-30.

Claim 6's "selecting attributes from this information; and" is anticipated by Hunt et al col. 7, lin. 17-30.

Claim 6's "converting the attributes into first said signature." is anticipated by Hunt et al col. 7, lin. 17-30.

Claim 8's "A method as claimed in Claim 1 wherein said anomaly detector comprises a neural network." is anticipated by Hunt et al col. 7, lin. 64-68; col. 9, lin. 28-47.

Claim 12's "(i) an input arranged to receive information about each of a number of events which occurred during the time period;" is anticipated by Hunt et al col. 7, lin. 14-16.

Claim 12's "(ii) a processor arranged to convert the information into a signature comprising a plurality of parameters related to the transmission of messages over the time period wherein the parameters comprise at least one parameter related to the transmission of messages over a portion of the period and also related to the position of the portion in the period, to enable output data to be derived from the stored information and wherein said processor is further arranged to convert at least part of the information into a second signature, comprising a plurality of parameters related to the transmission of messages over a second period, shorter than the first

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and more recent than the first; and also to update the first signature by a weighted averaging with the second signature;” is anticipated by Hunt et al col. 7, lin. 14-68.

Claim 12's “(iii) an anomaly detector;” is anticipated by Hunt et al col. 7, lin. 35-41.

Claim 12's “(iv) an input arranged to provide the signatures to the anomaly detector, and ” is anticipated by Hunt et al col. 7, lin. 30-35.

Claim 12's “(v) wherein the anomaly detector is arranged to process the signatures to derive the anomalies by detecting unexpected patterns in the transmission of messages by the entity over the time period.” is anticipated by Hunt et al col. 7, lin. 30-41.

Claim 13's “(i) creating a first signature comprising a plurality of parameters related to the transmission of messages over a predetermined first time period;” is anticipated by Hunt et al col. 7, lin. 15-17.

Claim 13's “(ii) creating a second signature comprising a plurality of parameters related to the transmission of messages over a second period shorter than the first and more recent than the first;” is anticipated by Hunt et al col. 7, lin. 43-47.

Claim 13's “(iii) updating the first signature by a weighted averaging with the second signature;” is anticipated by Hunt et al col. 7, lin. 64-68.

(iv) inputting the signatures to the anomaly detector; and ” is anticipated by Hunt et al col. 8, lin. 9-54.

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Claim 13's "(v) processing the signatures using the anomaly detector to derive the anomalies by detecting unexpected patterns in the transmission of messages by the entity over the time period." is anticipated by Hunt et al col. 8, lin. 9-54.

Claim 22's "an input arranged to receive information about the transmission of messages by the entity;" is anticipated by Hunt et al col. 7, lin. 15-17.

Claim 22's "a processor arranged to create a first signature comprising a plurality of parameters related to the transmission of messages over a predetermined first time period and to create a second signature comprising a plurality of parameters related to the transmission of messages over a second period shorter than the first and more recent than the first;" is anticipated by Hunt et al col. 7, lin. 15-17.

Claim 22's "a processor arranged to calculate a weighted averaging of the first and second signatures to form an updated first signature;" is anticipated by Hunt et al col. 7, lin. 64-68.

Claim 22's "an anomaly detector;" is anticipated by Hunt et al col. 8, lin. 9-54.

Claim 22's "an input arranged to provide the signatures to the anomaly detector, and wherein said anomaly detector is arranged to process the signatures to derive the anomalies by detecting unexpected patterns in the transmission of message by the entity over the time period." is anticipated by Hunt et al col. 8, lin. 9-54.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9, 13-19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt et al. (U.S. Patent Number 5,365,574; Dated 11/15/94.) in view of Peterson et al. (U.S. Patent Number 5,067,095; Dated 11/19/91).

Hunt et al discloses the conventional use of neural networks to extract characteristic signatures from voice data.

Hunt et al, however, does not expressly disclose the use of a time averaged feature vector, as disclosed in claims 9, 13-19 and 22. Those claims are identical to those rejected above but for this one feature in each of them.

Peterson et al discloses that the use of a time averaged feature vector produces a higher level of confidence in the data.

It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to use the time averaged feature vector from Peterson et al in Hunt et al. because a higher level of confidence in the data would have been a highly desirable feature in the neural network art due to its higher accuracy and Peterson et al recognizes that a higher level of

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confidence in the data would be expected when the time averaged feature vector of Peterson et al is utilized in the art of Hunt et al.

5. Claims 10, 11, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt et al. (U.S. Patent Number 5,365,574; Dated 11/15/94.) in view of Peterson et al. (U.S. Patent Number 5,067,095; Dated 11/19/91).

Hunt et al discloses the conventional use of neural networks to extract characteristic signatures from voice data.

Hunt et al, however, does not expressly disclose the use of a predictive model.

Peterson et al discloses that the use of a predictive model produces a more accurate output.

It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to use the predictive model from Peterson et al in Hunt et al. because a more accurate output would have been a highly desirable feature in the neural network art due to its increased efficiency and Peterson et al recognizes that a more accurate output would be expected when the predictive model of Peterson et al is utilized in the art of Hunt et al.

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Johnson et al. (U.S. Patent Number 5,345,595; Dated 09/06/94) discloses an apparatus and method for detecting fraudulent telecommunication activity.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (703) 305-0027. Alternatively, inquiries may be directed to Supervising Patent Examiner Tariq Hafiz whose telephone number is (703) 305-9643.

wls

April 17, 2000


Tariq R. Hafiz
Supervisory Patent Examiner
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